

WE CLAIM:

1. A user interface for a computing device, said interface comprising:

a) a graphic representation of a plurality of portals arranged in a three-dimensional space; and

b) a sensory cue displayed in at least one of said portals to facilitate recognition by a user of an application associated with said sensory cue.

2. The interface of claim 1 further comprising user input means permitting said user to rotate said interface about a plurality of axes.

3. The interface of claim 1 further comprising user input means permitting said user to adjust the geometry of said interface.

4. The interface of claim 1 further comprising user input means, permitting said user to view the details of a portal of interest, said portal of interest increasing in size for enhanced viewing by said user.

5. The interface of claim 1 further comprising user input means permitting said user to select a portal to be made active, said selection resulting in the execution of said application.

6. The interface of claim 1 wherein said graphic representation is in the form of a sphere, with the exterior of the sphere displayed to said user.

7. The interface of claim 1 wherein said graphic representation is in the form of a sphere, with the interior of the sphere displayed to said user.

8. The interface of claim 1 wherein a least one of said portals contains a user interface.

9. The interface of claim 1, further comprising user input means, said user input means accepting input to permit said user to access an interior of said graphic representation.

10. The interface of claim 1 wherein said graphical representation includes an armature to visually define each of said portals.

11. The interface of claim 1 further comprising user input means for accepting input from said user to create a transparent pane for covering a portal, said transparent pane containing content editable by said user.

12. The interface of claim 6, wherein said sphere includes polar caps and labels.

13. The interface of claim 7, wherein said sphere includes polar caps and labels.

14. The interface of claim 1, wherein said interface is projected onto a two-dimensional display.

15. A method for creating a populated three dimensional user interface, said method comprising the steps of:

- a) graphically representing a plurality of portals in a three-dimensional space;
- b) mapping sensory cues on a one to one basis to at least some of said portals; and
- c) associating an application with each of said sensory cues.

16. A computer device for displaying a three dimensional user

interface, said device comprising means for displaying said interface, said interface comprising: a graphic representation of a plurality of portals arranged in a three-dimensional space; and a sensory cue displayed in at least one of said portals to facilitate recognition by a user of an application associated with said sensory cue.

17. The device of claim 16 further comprising means for projecting said interface onto a two-dimensional display.

18. The device of claim 16 wherein at least one application is a further three dimensional interface.

19. The device of claim 16 wherein said graphic representation is hollow and at least one of said portals provides access to the interior of the space within said graphic representation, said interior containing a plurality of interior portals.

20. The device of claim 19 wherein the interior of said interface contains a further interface.

21. The device of claim 20 wherein said further interface contains a plurality of additional interfaces to a depth selected by a creator of said three dimensional user interface.

22. The device of claim 16 wherein said graphic representation is spherical in shape.

23. The device of claim 22 wherein said spherical representation further comprises polar caps and labels.

24. A method for populating portals in a three dimensional user interface, said user interface having an exterior and an interior, comprising the steps of:

- a) establishing a connection with a first web page;
- b) creating a sensory cue based on the first web page;
- c) mapping said sensory cue to an exterior portal; and
- d) creating sensory cues for each additional web page accessible from said first web page and mapping said sensory cues to portals located on the interior of said user interface.

25. A computer readable medium containing instructions for controlling one or more three dimensional user interfaces in a computing device, by:

- a) permitting a user to select a user interface, said selected interface containing a plurality of portals;
- b) monitoring for first user input, said input indicating a portal of interest to said user;
- c) upon receiving said first user input, moving said selected interface to centrally display said portal of interest;
- d) monitoring for second user input to make said portal of interest an active portal, if input other than said second user input is received, returning to step b);
- e) upon receiving said second user input, invoking an application program, until said user provides third user input to move to another portal; and
- f) repeating steps b) to e) until said user provides third user input, thereby returning to step a).

26. The interface of claim 1 further comprising means for selecting a portal to be made active from said plurality of portals, wherein the portal to be selected is closest to a pre-determined reference point.

27. The interface of claim 26 wherein said selected portal is positioned proximate the middle of a screen and substantially upright.

28. The interface of claim 2 further comprising rotational constraint means for preventing said interface from rotating to an upside-down position.

29. The interface of claim 2 further comprising rotational constraint means for preventing said interface from rotating about at least one first axis while permitting rotation of the interface about at least one second axis.

30. The interface of claim 2 further comprising rotational constraint means for preventing said interface from rotating at a rate greater than a pre-determined maximum rotation rate.

31. The interface of claim 2 further comprising rotational constraint means for reversing the current direction of rotation of said interface when said interface is rotating.

32. The interface of claim 2 further comprising control means for controlling the speed of rotation of said interface, wherein the speed of rotation of said interface depends on the position of a cursor relative to an edge of said interface.

33. The interface of claim 2 further comprising control means for controlling the direction of rotation of said interface, wherein the direction of rotation of said interface depends on the position of a cursor relative to a point on said interface.

34. The interface of claim 33 wherein said point is located at the centre of said interface.

35. The interface of claim 1 further comprising means for recording a plurality of interactions and subsequently executing said recorded interactions on said interface.

36. The interface of claim 12, wherein said polar caps are used to view a subset of data represented in said interface.

37. The interface of claim 13, wherein said polar caps are used to view a subset of data represented in said interface.

38. The interface of claim 1 further comprising means for navigating the interface using a text-based index, wherein elements of said index are associated with said plurality of portals.

39. The interface of claim 1 further comprising means for transmitting data to and receiving data from at least one other remotely-located interface through a network connection.

40. The interface of claim 39 wherein said interface is used to control the operation of said at least one remotely-located interface.

41. The interface of claim 39 wherein the operation of said interface is controlled by said at least one remotely-located interface.

42. The interface of claim 1 further comprising means for importing data into said interface from a data source, said data being represented in said data source in a hierarchical format.

43. The interface of claim 1 further comprising means for enabling objects to be moved between portals of said interface.

44. The interface of claim 43 wherein objects can be dragged from one of said plurality of portals to another of said plurality of portals.

45. The interface of claim 1 further comprising means for enabling objects to be dragged from an application to one of said plurality

of portals.

46. The interface of claim 1 wherein said interface is displayed in a window having substantially the same shape as a cross-section of said interface.

47. The interface of claim 1 further comprising update means for updating content in at least one remotely-located portal when content in a portal of said interface is changed.

48. The interface of claim 1 further comprising update means for updating content in at least one remote interfaces when content in said interface is changed.

49. The interface of claim 1 further comprising means to search for a web page contained in one of said plurality of portals corresponding to a user-designated web address, and to display said web page to said user.